

APPENDIX C

US ARMY AIRCRAFT CAPABILITIES

Table C-1. Fixed wing aircraft capabilities

A. AIRCRAFT¹	UNIT	C-12C	C-12D	RC-12D	RV-1D*
B. NORMAL CREW	per aircraft	2	2	2	2(Pilot & Operator)
C. OPERATIONAL CHARACTERISTICS^{2,3,4}					
(1) Maximum allowable gross weight	lbs	12,500	12,500 ²³	14,200	18,109
(2) Basic weight	lbs	8, 084	8,084	8,143	12,054
(3) Useful load	lbs	4,416	4,416	2,078	6,055
(4) Payload/Normal mission	lbs	2,000	2,000	2,000	NA
(5) Fuel capacity⁹ (Internal/external)	lbs/gal	2,470/386	2,470/386	2,470/386	1,790/276 1,950/300
(6) Fuel consumption rate⁹	lbs/gal/hr	456/70	456/70	456/70	900/130
(7) Normal cruise	kts	260	260	260	220
(8) Endurance at cruise (Plus 30 + min reserve)	hrs + minutes	5 + 15	5 + 15	5 + 15	1 + 40 ¹⁴ 3 + 30 ¹⁵
(9) Grade of fuel	octane	JP-4/5/8	JP-4/5/8	JP-4/5/8	JP-4/8
D. PASSENGER CAPACITY					
(1) Troop seats	ea	8	8	8	1
(2) Normal capacity	ea	8	8	8	1
(3) Total capacity w/crew	ea	10	10	10	2
(4) Litters & ambulatory	ea	NA	NA	NA	NA
E. EXTERNAL CARGO					
(1) Maximum recommended external load⁵	lbs	NA	NA	NA	ea wing 2,000

Table C-1. Fixed wing aircraft capabilities—continued

A. AIRCRAFT¹	UNIT	C-12C	C-12D	RC-12D	RV-1D*
F. DIMENSIONS					
(1) Length—fuselage ⁸	ft-in	43'10"	43'10"	43'10"	41'9"
(5) Width—tread	ft-in	17'2"	17'2"	17'2"	9'2"
(6) Height—extreme	ft-in	15'5"	14'9"	15'5"	13'0"
(9) Wing span	ft-in	54'6"	55'6.5"	54'6"	48'0"
G. CARGO DOOR					
(1) Dimensions—width/height	in	27.7" x 51.5"	52" x 52"	27.7" x 51.5"	NA
(2) Location—side of fuselage	left/right front/rear	left rear	left rear	left rear	NA
H. CARGO COMPARTMENT					
(1) Floor—above ground	in	47	42	47	NA
(2) Usable length	in	128	128	128	NA
(3) Floor width	in	54	54	54	NA
(4) Height (clear of obstructions)	in	57	57	57	NA
(5) Maximum cargo space	cu ft	306.5	306.5	30	

Table C-2. Rotary wing aircraft capabilities

A. AIRCRAFT¹	UNIT	OH-6A	OH-58A	OH-58C	CH-47D	OH-58D
B. NORMAL CREW	per acft	1+observer	1+observer	1+observer	4	2
C. OPERATIONAL CHARACTERISTICS^{2,3,4}						
(1) Maximum allowable gross weight	lbs	2,400	3,000	3,200	50,000	5,200
(2) Basic weight	lbs	1,163	1,586	1,898	22,499	
(3) Useful load	lbs	1,237	1,417	1,302	27,501	
(4) Payload/Normal mission	lbs	650 ⁸	760 ⁸	837 ⁸	20,206	
(5) Fuel capacity ⁹ (inter/ext)	lbs/gal	400/61.5	475/73	465/71.5	6,695/1030	762/112
(6) Fuel consumption rate ⁹ (internal/external)	lbs/gal/hr	143/22	189/29	175/27	2,600/400	280/41
(7) Normal cruise	kts	90	90	90	120	90-100
(8) Endurance at cruise (Plus 30 + min reserve)	hrs + minutes	3 + 15	3 + 30	3 + 00	2 + 30	2 + 00
(9) Grade of fuel	octane	JP-4/5/8	JP-4/5/8	JP-4/5/8	JP-4/5/8	JP-4/5/8
D. PASSENGER CAPACITY						
(1) Troop seats	ea	3	2	2	33	0
(2) Normal capacity	ea	3	4	4	33	0
(3) Total capacity w/crew	ea	4	4	4	37	0
(4) Litters & ambulatory	ea	NA	2/4	2	24	0
E. EXTERNAL CARGO						
(1) Maximum recommended external load ⁵	lbs	NA	NA	NA	26,000	NA
(2) Rescue hoist capability	lbs	NA	NA	NA	600	NA
(3) Cargo winch capacity	lbs	NA	NA	NA	3,000	NA
F. DIMENSIONS						
(1) Length—fuselage ⁶	ft-in	23'0"	32'3.5"	32'8.8"	51'0"	40'

Table C-2. Rotary wing aircraft capabilities—continued

A. AIRCRAFT¹	UNIT	OH-6A	OH-58A	OH-58C	CH-47D	OH-58D
(2) Length—blades unfolded	ft-in	30'4"	40'11.8"	40'11.8"	99'0"	40'6.4"
(3) Length—blades folded	ft-in	23'0"	NA	NA	51'0"	40'
(4) Width—blades folded	ft-in	5'6"	NA	NA	12'5"	11'
(5) Width—tread	ft-in	6'9"	6'3.5"	6'5.4"	11'11"	6'5.4"
(6) Height extreme	ft-in	8'3"	9'6.5'	12'0"	18'8'	12'10.6"
(7) Diameter—main or forward rotor	ft-in	26'4"	35'4"	35'4"	60'0"	35'
(8) Diameter—tail or rotor	ft-in	4'3"	5'2"	5'2"	60'0"	5'5"
(9) Wing span	ft-in	NA	NA	NA	NA	NA
G. CARGO DOOR						
(1) Dimensions/height	in	41"x34.5"	40"x35"	40"x35"	90"x78"	NA
(2) Location—side of fuselage (left & right/front and rear		left & right	left & right	rear right	rear	
H. CARGO COMPARTMENT						
(1) Floor—above ground	in	14.5"	22.5"	22.5"	31.2"	NA
(2) Usable length	in	5'9"	39"	39"	30'2"	
(3) Floor width	in	3'2"	50"	50"	7'6"	
(4) Height (clear of obstructions)	in	3'2"	50"	50"	6'6"	
(5) Maximum cargo space	cu ft	40	20	20	1,474	
I. Weapons²¹	NA	NA	NA	NA	M60	ATAS HELLFIRE .50 2.75

Table C-2. Rotary wing aircraft capabilities—continued

A. AIRCRAFT ¹	UNIT	AH-1F*	AH-64 ¹³	UH-IHV ²²	UH-60A/L ²³
B. NORMAL CREW	per acft	2	2	2	3
C. OPERATIONAL CHARACTERISTICS ^{2,3,4}	lbs				
(1) Max allowable gross weight	lbs	10,000	17,400	9,500	20,000
(2) Basic weight	lbs	6,598	10,505	5,132	10,500
(3) Useful load	lbs	4,302	6,895	4,368	7,945
(4) Payload/Normal mission	lbs	1,293 ²⁰	4,090 ²⁰	2,900	3,360 ¹⁶
(5) Fuel capacity ⁹ (Internal/external)	lbs/gal/hr	1,703/262	2,405/370	1,358/209	2,360/362
(6) Fuel consumption rate ⁹	lbs/gal	640/98	810/124	550/84	960/148
(7) Normal cruise speed	kts	90-130 ¹⁹	90-140 ¹⁹	90-120	120-190
(8) Endurance at cruise (Plus 30 min reserve)	hrs + mins	2 + 30	1 + 45	2 + 15	2 + 15
(9) Grade of fuel	octane	JP-4	JP-4/5/8	JP-4/5	JP-4/5/8
D. PASSENGER CAPACITY					
(1) Troops seats	ea	0	0	11	14
(2) Normal capacity	ea	0	0	11	14
(3) Total capacity w/crew	ea	0	0	13	17
(4) Litters and ambulatory	ea	0	0	6	4/6
E. EXTERNAL CARGO					
(1) Maximum recommended external load ⁵	lbs	1,380 ¹⁸	6,200 ¹⁸	4,000	8,000
(2) Rescue hoist capacity	lbs	NA	NA	300 ¹⁷	600
(3) Cargo winch capacity	lbs	NA	NA	NA	NA
F. DIMENSIONS					
(1) Length—fuselage ⁶	ft-in	44'7"	49'3"	40'7"	50'7.5"

Table C-2. Rotary wing aircraft capabilities—continued

A. AIRCRAFT¹	UNIT	AH-1F	AH-64¹³	UH-1H/V²²	UH-60A/L²³
(2) Length—blades unfolded	ft-in	53'1"	57'1"	57'1"	64'10"
(3) Length—blades folded	ft-in	NA	NA	NA	40'4"
(4) Width—blades folded	ft-in	10'9"	16'3"	8'7"	9'8.1"
(5) Width—tread	ft-in	7'0"	6'6"	8'7"	8'10.2"
(6) Height—extreme	ft-in	13'9"	12'6"	14'6"	17'6"
(7) Diameter—main or forward motor	ft-in	44'0"	49'0"	48'	53'8"
(8) Diameter—tail or rear rotor	ft-in	8'6"	9'3"	8'6"	11'0"
(9) Wing span	ft-in	10'4"	16'3"	NA	NA
G. CARGO DOOR					
(1) Dimensions—width/height	in	NA	NA	74"x48"	68"x54"
(2) Location—side of fuselage	left & right front rear	NA NA	NA NA	left & right	left & right
H. CARGO COMPARTMENT					
(1) Floor—above ground	in	NA	NA	24	19
(2) Usable length	in	NA	NA	92	110
(3) Floor width	in	NA	NA	96	72
(4) Height (clear of obstructions)	in	NA	NA	49	54
(5) Maximum cargo space	cu ft	NA	NA	220	246.8
I. WEAPONS¹⁰	NA	TOW 20mm 2.75	30mm HELLFIRE 2.75	M60	M60

Table C-3. Special operations aircraft capabilities

A. AIRCRAFT¹	MH-60K	MH-47E	C-23
B. NORMAL CREW	4	5	3
C. OPERATIONAL CHARACTERISTICS^{2,3,4}			
(1) Max allowable gross weight (lbs)	24,500	54,000	25,600
(2) Basic weight	14,265	26,918	16,874
(3) Useful load	10,235	27,082	7,280
(4) Payload normal mission	5,000	N/A	N/A
(5) Fuel capacity (lbs)	2,340	13,442	4,355
(6) Fuel consumption (lbs/hr)	960	2,600	1,000
(7) Normal cruise speed (kts)	120	140	180
(8) Endurance at cruise speed (Plus 30 + min reserve)	2 + 15	4 + 36	4 + 21
(9) Grade of fuel	JP-4/5/8	JP-4/5/8	JP-4/5/8
D. PASSENGER CAPACITY			
(1) Troop seats	14	44	30
(2) Normal capacity (ea)	14	44	30
(3) Total capacity (ea)	18	49	33
(4) Litters & ambulatory	N/A	24/44	15/3
E. EXTERNAL CARGO			
(1) Maximum recommended external load (lbs)	8,000	26,000	NA
(2) Rescue hoist capability (lbs)	600	600	NA
(3) Cargo winch capability (lbs)	NA	3,000	NA

Table C-3. Special operations aircraft capabilities—continued

A. AIRCRAFT¹	MH-60K	MH-47E	C-23
F. DIMENSIONS			
(1) Length—fuselage (ft)	50.7	51.0	58.04
(2) Width—tread	9.0	11.1	13.9
(3) Height—extreme	17.8	18.8	16.41
(4) Length—blades unfolded	64.1	99.0	N/A
(5) Length—blades folded	57.4	51.0	N/A
(6) Width—blades folded	14.4	12.5	N/A
(7) Wing span	N/A	N/A	74.84
(8) Diameter—main rotor(s)	53.8	60.0	N/A
(9) Diameter—tail rotor	11.0		
G. CARGO DOOR			
(1) Width (in)	68.0	90.0	65.0
(2) Height (in)	54.0	78.0	55.0
(3) Location on fuselage	left/right	rear	left
H. CARGO COMPARTMENT			
(1) Floor above ground (in)	19.0	31.2	10.0
(2) Usable length (ft)	9.1	30.2	29.82
(3) Floor width (ft)		7.6	6.2
(4) Height (ft)	4.5	6.6	6.2
(5) Maximum cargo (cu ft)		1,474	1,246
I. WEAPONS (miniguns)	2 x M-134	2 x M-134	

Tables C-1 through C-3. US Army aircraft capabilities-continued

Footnotes:

- ¹A - Attack, C - Cargo, O - Observation, U - Utility.
- ²All data computed at standard conditions at sea level.
- ³Detailed weight computations and characteristics taken from current 55-series TMs.
- ⁴Data subject to change due to developmental testing.
- ⁵Maximum load the aircraft is capable of lifting.
- ⁶Dimension from nose to end of tail.
- ⁷Varies with load carried. Figure given is for normal mission profile.
- ⁸Does not meet 200-nm range requirement of normal mission definition.
- ⁹Aviation gas figured on 6 lbs/gal. JP-4 computed on 6.5 lbs/gal. JP-8 computed on 6.8 lbs/gal.
- ¹⁰Indicates type of weapons aircraft can carry. Specific armament based on unit assignment.
- ¹¹Seven-round 2.75-inch rocket pod.
- ¹²Nineteen-round 2.75-inch rocket pod.
- ¹³Subject to final development configuration.
- ¹⁴Without external fuel.
- ¹⁵With external fuel.
- ¹⁶Normal mission, internal load, probability exists to cube out before weight out. Max load on the floor is 300 lbs/sq ft.
- ¹⁷UH-1 is restricted to hoist capacity of 300 lbs because of center of gravity conditions.
- ¹⁸External wing stores.
- ¹⁹Due to armament configurations and flight profiles.
- ²⁰Considers gross weight minus basic weight minus 400 lbs for crew and total fuel weight.
- ²¹Fuel consumption at 92 kts, 77 gal/hr; at 140 kts, 84 gal/hr.
- ²²Weapons are not applicable to UH-1V, medical evacuation helicopters.
- ²³MW0 allows 13,000 or 13,500 lbs per specified airframe.
- ²⁴Reserve/NG only.

Considerations:

- These tables are for general reference use only. Refer to the appropriate operator's manual for detailed information. Definitions of terms used in this table include the following:
 - *Maxnmn allowable gross weight.* The maximum allowed total weight of the aircraft before takeoff. The "basic weight" of the aircraft plus the crew, personnel equipment, special device, passengers and cargo, and usable fuel and oil. This is limited by structure, power available, or landing load.
 - *Basic weight.* The empty weight of an aircraft configuration to include all appointments, integral equipment, instrumentation, trapped fuel and oil, but excluding passengers, cargo, crew, fuel, and oil.
 - *Useful load.* The load-carrying capability of an aircraft including payload, crew, oil, and usable fuel required for the mission. This is the difference between "maximum allowable gross weight" and "basic weight" as defined above. Thus, a reduction of the fuel load will decrease the endurance and increase the payload. Fuel oil is required for all missions.
 - *Payload.* The useful load less the crew, full oil, and the required fuel for the mission.
 - *Normal mission.* Payload available computed under the following conditions:
 - Fuel for 200 nm plus a 30-minute reserve.
 - Flight altitude 2000' mean sea level, standard temperature.
 - Takeoff maximum gross weight (weight of crew included).
 - *Normal cruising speed.* The true airspeed that an aircraft can normally be expected to maintain at some standard power setting below rated military power. This speed will vary with altitude; for example, the U-8F's normal cruising speed is 165 at 65 percent power at 8,000 ft.
 - *Endurance at cruising speed.* The time that an aircraft can remain airborne at normal cruising speed with fuel aboard without using the required fuel reserve. The data listed under "Operational Characteristics" are computed using full fuel minus a 30-minute reserve.